CLAIM AMENDMENTS

1. (currently amended) A heat insulating layer with a melting point above 2500°C, [[with]] a thermal expansion coefficient in excess of 8×10^{-6} K^{-1}, and a sintering temperature greater than 1400°C, wherein ~~characterized in that~~ the heat-insulating material has a perovskite structure of the general formula A_{1+r} $(B'_{1/3+x}$ $B''_{2/3+y})O_{3+z}$ in which

A = at least one element of the group (Ba, Sr, Ca, Be),

B' = at least one element of the group (Mg, Ca, Sr, Ba, Be),

B" = at least one element of the group (Ta, Nb), and

$0.1 < r, x, y, z < 0.1$;

or the heat-insulating material has the perovskite structure of the general formula A_{1+r} $(B'_{1/2+x}$ $B''_{1/2+y})O_{3+z}$ in which:

A = at least one element of the group (Ba, Sr, Ca, Be),

B' = at least one element of the group (Al, La, Nd, Gd, Er, Lu, Dy, Tb),

B" = at least one element of the group (Ta, Nb), and

$0.1 < r, x, y, z < 0.1$.

2. (currently amended) A heat-insulating material according to claim 1 wherein [[which]] the heat-insulating material has a composition wherein $r = x = y = z = 0$.

3. (previously presented) The heat-insulating material according to claim 1 with a composition of the formula $Ba(Mg_{1/3}Ta_{2/3})O_3$.

4. (currently amended) The use of the heat-insulating material according to claim 1 as a heat-insulating coating on the surface of the component.

5. (currently amended) The use according to ~~the preceding~~ claim 4, further comprising, ~~in which~~ between the component and the heat-insulating component, one or more intermediate coatings of ceramic glass or metallic material ~~is provided~~.

6. (currently amended) The use according to the preceding claim 5, further comprising, ~~wherein~~ between the component and the heat-insulating layer, an intermediate layer comprised of a MCrAlY alloy ~~is provided~~ where M = Co, [[as]] Ni ~~material for the intermediate layer~~.

7. (currently amended) The use according to the preceding claim 5, further comprising, ~~in which~~ between the component and the heat-insulating layer, an intermediate (platin-) aluminide layer ~~is provided for an intermediate layer~~.

8. (currently amended) A method of making a heat-insulating material according to claim 1 ~~characterized in that~~ wherein the starting material is ~~provided as~~ carbonates and/or oxides corresponding to the aforedescribed stoichiometry in a mixture and this mixture is subjected to a solid-state reaction ~~whereby~~ such that the heat-insulating material thus produced has the corresponding stoichiometry and the perovskite structure.

9. (currently amended) The method according to claim 8 wherein the mixture is so formed that the perovskite produced by the solid-state reaction has a composition according to the formula

$$A_{1+r}\ (B'_{1/3+x}\ B''_{2/3+y})O_{3+z}$$

or according to the formula

$$A_{1+r}\ (B'_{1/2+x}\ B''_{1/2+y})O_{3+z}$$

with $0.1 < r, x, y, z < 0.1$.

10. (currently amended) The method according to claim 8 characterized in that the mixture is so made that the perovskite after the solid-state reaction has a composition according to the formula

$$A_1\ (B'_{1/3}\ B''_{2/3})O_3$$

or according to the formula

$$A_1\ (B'_{1/2}\ B''_{1/2})O_3.$$